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DISCUSSION

Dr Jon Matsumura (*Madison, Wisc*). What other process measures were in place to address wound complications during the study? Methicillin-resistant *Staphylococcus aureus* screening, normothermia, antibiotic selection and timing?

Dr C. Keith Ozaki. Over the last decade, we have had many changes and redesign of our care processes to address these issues. More attention to normothermia, more attention to timely perioperative antibiotics, increased considerations of approaches, such as skip incisions, all of those continued to be implemented over time and may account for some of the differences between the current report and the prior nonconcurrent study that had the original control group first and then at a later date had the silver alginate dressing cohort.

There were a variety of wound practices at these three different institutions, so I cannot summarize those in just a few statements. But we did try to design this trial to be applicable to several different settings, both the civilian and the Veterans Administration population.

Dr Peter Lawrence (*Los Angeles, Calif*). Did you classify wounds by degree of contamination? Clean contaminated wounds in patients with foot infections might benefit from this dressing, while the average clean wound would not. Did you calculate the cost/benefit for each group?

Dr Ozaki. That is an excellent point. The cost data related to this, especially the cost of having a wound complication, will be presented at Eastern Vascular and New England meetings this fall. These dressings are actually quite inexpensive. For a 4-by-5 inch piece, the actual General Services Administration price, and that translates pretty well to the civilian price, is less than $10.00. We tested an approach that we thought might be cost-effective even if there was a very small clinical benefit. Whenever we broke the cases down into those that were nonclean, we actually by χ^2 analysis did see a statistically significant benefit for the silver dressing. I did not present those data though because I do not trust the data. Half of those cases were labeled as clean-contaminated. And by the technical definition, that means you either enter a hollow viscus or you have a

clear break in sterile technique. So I am concerned about the primary quality of that information.

But you are correct, from our data set we should be able to select patients most at risk, and maybe for that select population there could be a role for this type of dressing.

Dr David Yu (*Seattle, Wash*). I was wondering if the immunocompetence status of these patients were taken into consideration for the study?

Dr Ozaki. I do not have any specific assays of immune status. We did have a subset of the patients that were on immunosuppressive prednisone, and there was no differential in the wound complication rates for these patients.

Dr Jens Eldrup-Jorgensen (*Portland, Me*). Surgical site infections in our institution have received a lot of scrutiny of late. I think a lot of the value of this study is to give us a contemporary assessment of what realistic surgical site infection rates are. We find that in our institution they are very similar to what you are reporting here, and yet the expectation is that they should be much lower, at least from some parties.

We have also tried using a silver-based dressing on a more empiric approach. And now with the failure of this to show any efficacy, are you trialing the negative-pressure dressings in some of these more complex wounds?

Dr Ozaki. Based on some of the earlier reports, I am intrigued by the negative-pressure dressings even for the closed incisions. That technique warrants further investigation. Actual infection rates are in the midteens for our lower extremity revascularizations and 6.6% when you have to cut down to do an endovascular aneurysm repair. I think that is useful data, and I think it is real. All our study institutions had these rates.

Dr Cassius Iyad Ochoa Chaar (*New Haven, Conn*). I congratulate you on doing a study that is sponsored by industry but still have data independently analyzed with the investigators. What were the lengths of those incisions, and were the anatomical locations comparable in both groups? And for the groin specifically, were you able to compare vertical and transverse incisions?

Dr Ozaki. The average incision length was just over 32 cm. There was not a difference between the groups in incision length. Regarding the orientation of the groin incision, there were many confounding factors, such as whether this was a redo surgery that had a prior vertical incision, whether this was an obese patient, etc. Most of the endovascular aneurysm repair participants had a transverse groin incision vs those with extensive occlusive disease that needed a long profundoplasty might have had vertical. So I am nervous about analyzing that data under these study conditions because of those confounding factors. However we do have a lot of granularity in the data set with regards to location of incisions, types of incisions, and there will be future analyses of those issues.

Dr Palma Shaw (*Syracuse, NY*). Given the number of different silver dressings, with different amounts of silver in each dressing, do you think that there is a role for looking at different amounts of silver and seeing if this has an effect?

Dr Ozaki. Yes, that is a great point. There are a variety of silver dressing products. If you talk to another silver dressing manufacturer, they will suggest that the reason your study was negative is because you used the wrong dressing. If there are any industry partners out there thirsty to really look at this, we are anxious to have something that will help these patients.